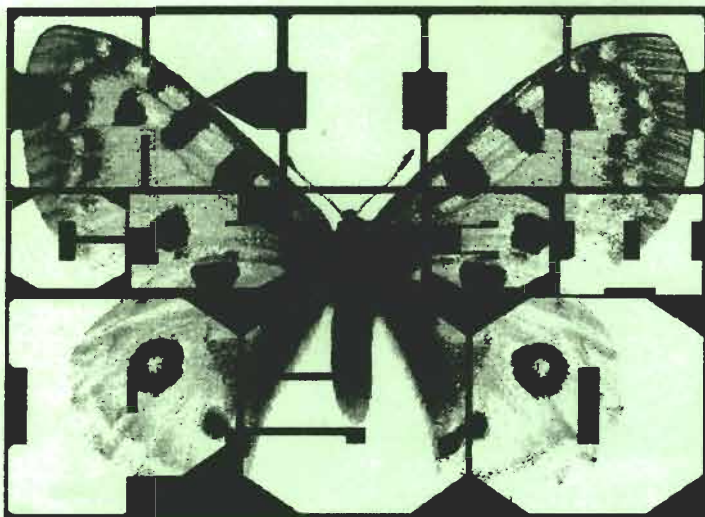


**РОССИЙСКАЯ АКАДЕМИЯ НАУК
РУССКОЕ ЭНТОМОЛОГИЧЕСКОЕ ОБЩЕСТВО
КУБАНСКИЙ ГОСУДАРСТВЕННЫЙ АГРАРНЫЙ УНИВЕРСИТЕТ**

ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ ОБЩЕЙ ЭНТОМОЛОГИИ

**Тезисы докладов XIII съезда
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В сборник включено 428 работ, представленных XIII съезду Русского энтомологического общества (Краснодар, 9 – 15 сентября 2007 г.). В них освещаются проведенные в последнее время в нашей стране и ближнем зарубежье исследования по систематике, филогении, фаунистике, морфологии, физиологии, экологии, этологии, зоогеографии и охране насекомых. Сборник представляет интерес для широкого круга энтомологов, специалистов по защите растений, студентов биологических специальностей, агрономов.

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On behaviour of *Medetera* flies (Diptera, Dolichopodidae)

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[Н.Е. Вихрев. О поведении имаго мух-короедниц *Medetera* (Diptera, Dolichopodidae)]

Being very common, large and comparatively easy to identify *Medetera jacula* presents a good opportunity to observe *Medetera* behaviour. On the trunk they concentrate mostly between 0 and 1 m high, but some flies may be seen up to a height of 3 m. It seems that for *Medetera* it doesn't matter whether it is a sunny or shadowy part of trunk, but when the weather is rainy, they prefer (not exclusively) sites of dry bark. Cold and rainy weather doesn't disturb *Medetera* activity. Also they could be found on the grass around the tree. *Medetera* are active till deep twilight. Most of the time *Medetera* sits motionless on the trunk, looking towards sky with abdomen down and head up. This position seems to be on one hand most ergonomic, on the other hand it gives highest possible field of view. Let it be called "waiting" position. When detecting the prey *Medetera* changes position into "hunting" one, with the body parallel to the trunk. Thus it is ready to attack or run after the prey along the trunk. If the prey stops moving, *Medetera* freezes in hunting position too and leaves freezing for 5-20 sec. When eating the prey, the fly again uses waiting position. For overnight they seem to use a special position with the body parallel and pressed to the bark. It is generally accepted that Dolichopodidae suck out contents of their prey. It seems that *Medetera* never does so, but always swallows its prey (or releases it 'alive and kicking' if swallowing is impossible). The feeding is difficult to observe because it appears only as follows: *Medetera*'s hunting position is often finished by short and fast nod of the fly's head to the bark surface and then one can see during 1-2 sec slight movements of *Medetera*'s horse-like lower part of face. It seems that *Medetera* has no group-specialty at all in prey choice; it attacks any sizable moving creature. Acarina (Macrochelidae), Collembola (Neanuridae), Hemiptera and Hymenoptera (Ceraphronidae) were swallowed in less than 5 sec. Flies are very voracious; sometimes two successful hunts of this kind occur during one minute. In case of large prey *Medetera* usually catches it by the dorsal side of the geometrical center of the prey's body and swallows the prey from hind part to head. The captured prey usually remains alive (moves legs and antennae and hold its body) for not more than 1 minute. Several times *Medetera* decapitated almost-swallowed Cecidomyiidae or Sciaridae using its forelegs, and once broke off the furcula of an almost-swallowed Collembola, Isotomidae. Also with the help of its forelegs *Medetera* releases captured prey which it finds inedible for some reason. Swallowing of aphids took 40-60 sec, but in one case 17 min. Swallowing of large Collembola took 3-10 min. Swallowing of Cecidomyiidae usually takes 4-5 min, but may be up to 15 min. Flies detect its prey from a distance of 0.5-2 cm. Frequently *Medetera* detect Coccinellidae larvae or Cicadellidae from distance of 5-6 cm, run to 2-3 cm and from this shorter distance realize that the prey is too large and stop. So, flies have distant vision, but this vision isn't keen enough. The hind quarter of *Medetera*'s field of vision is a "blind sector". If, for example, an ant approaches to adult inside this blind sector, *Medetera* doesn't jump

away, which is what it always does otherwise. This blind sector seems to be important also for courtship. The first step of courtship is the male's "wing helicoptering". The wing helicoptering point is to the left or right side (+/- 45 degree) of the object of courtship, at a distance of 1-3 cm. Wing helicoptering is not a necessary step; it was rare in early August and much more frequent in early September. It takes 2-6 sec. Then *Medetera* jumps into blind sector of another *Medetera*. It is the position for the second step of *Medetera*'s courting. The second step consists of tender stroking of scutellum and wings of the upper fly by one of the forelegs of the lower fly, then less tender stroking done by both forelegs, then mating (or mating attempt). Copulation is short and takes 10-25 sec. Neither female feeding disturbs male mating, nor male mating disturbs female feeding. Mating attempts of a male are often directed to male too (sexual aggressiveness after Baumhover, 1965). If a small paper "pseudomedetera" is attached to tree surface, then this pseudomedetera is the object of a full courtship program with wing helicoptering and stroking. *Medetera*, these raptors of tree bark, are peaceful towards each other and do not show any territorial behaviour. Besides large eggs there is another thing to consider. *Medetera* with pulled out ovipositor have been observed 3 times. Female pulls ovipositor out, massaging their abdomen by hind legs. If female stop this massage, ovipositor begins spontaneously pull in abdomen (and it seems that female hasn't possibility to pull it out without help of legs). An undisturbed female repeated this procedure 2-5 times. All main characters of behaviour of *Medetera jacula* are true for *M. pallipes* and *M. truncorum*: waiting and hunting positions; cleaning; hunting habits; swallowing of prey; courtship, including male to male; lack of ovipositing observations. Wing helicoptering looks rather different in *M. truncorum*: wings during helicoptering almost lay on abdomen.